Submitted by Robin L Bergman, Town Meeting Member,Precinct 12

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Dear Members of the Arlington Town Meeting:

I am writing to urge that you not install artificial turf fields in the Town of Arlington. Synthetic turf fields pose multiple hazards to children's health. They are bad for the environment. And contrary to their manufacturers' claims, these fields have hidden costs, and they are not cheap.

I am a pediatrician, epidemiologist and public health physician. I am a graduate of Boston College, Harvard Medical School, and the London School of Hygiene & Tropical Medicine. I am currently a Professor at Boston College where I direct the Program for Global Public Health and the Common Good and the Global Observatory on Planetary Health. I served previously from 1970-1985 as an Epidemic Intelligence Service officer and medical epidemiologist in the US Centers for Disease Control and Prevention (CDC). From 1985 to 2018, I was a member of the faculty of the Icahn School of Medicine at Mount Sinai, where I served as Chairman of the Department of Preventive Medicine, Professor of Pediatrics, and Dean for Global Health. For more than four decades my research has examined the impacts of toxic chemicals on human health and especially on the health of children. I am a member of the National Academy of Medicine.

Synthetic turf fields have proliferated in recent years. There are many hundreds of these installations now in place across the United States. They are promoted aggressively by their manufacturers and by "booster clubs" that the manufacturers support. The stated need for their installation is a desire to improve the quality and enhance the drainage of playing fields coupled with a strong impetus to get more kids out and exercising as a way to combat the obesity epidemic.

These are laudable goals. The problem is that they have been pursued with little consideration of alternatives and insufficient analysis of potential negative consequences. In too many cities and towns that installed synthetic turf fields, the claims of the turf field manufacturers went unchallenged and there was little due diligence. The result is that many localities are now in a situation in which very expensive synthetic turf fields have been installed and the problems that were not mentioned at the time of their installation are now becoming apparent.

Multiple health problems have been associated with synthetic turf fields. They include:

1. Extreme heat. On hot summer days, temperatures of over 130 degrees Fahrenheit have been recorded a few feet above the surface of synthetic turf fields – precisely at the altitude where children run and play. Vigorous play in these conditions conveys a very real risk of heat stress or heat stroke.

2. MRSA skin infections. Outbreaks of skin infections caused by methicillin-resistant Staphylococcus aureus (MRSA) have been documented in children who play on synthetic turf fields (reported in the *New England Journal of Medicine*, February 2005).

3. Inhalation and ingestion of toxic and carcinogenic chemicals. The toxic chemicals, styrene and 1,3-butadiene, are major components of the crumb rubber that is a major constituent of synthetic turf fields. Styrene is neurotoxic and causes damage to the brain and nervous system. 1,3-butadiene is a proven human carcinogen, which has been shown to cause leukemia and lymphoma, including childhood leukemia. The crumb rubber pellets that go into synthetic turf fields also contain lead, cadmium and other toxic metals. There is potential for all of these toxic materials to be inhaled, absorbed through the skin and swallowed by children who play on synthetic turf fields. Children are more sensitive than adults to all of these chemicals.

Lead was found in synthetic turf fields in New Jersey at levels so high that several fields had to be closed by the New Jersey State Department of Health. This is extremely alarming since lead is a highly toxic chemical and brain injury is the most serious consequence of pediatric lead poisoning. Young children are especially vulnerable to lead because their brains are rapidly growing and developing, and because their normal hand-to-mouth behavior increases the risk that they will take lead into their bodies from the environment. Even low-dose exposure to lead can cause loss of IQ, shortening of attention span and disruption of behavior as well as increased risk of dyslexia and school failure.

4. Transportation home of crumb rubber pellets. Chemical-laden crumb rubber pellets do not remain on artificial turf fields. These pellets are picked on children's shoes, clothing and skin. They are then tracked into children's homes and cars, and they are carried into the places where children live, play, eat and sleep. Thus, exposure to the chemicals in the pellets can continue for many hours beyond the time that a child spends in play on the synthetic turf field.

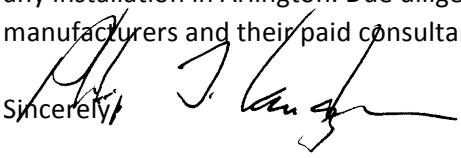
5. Escape of chemical hazards from fields to the environment. A number of the toxic and chemical components of synthetic fields are soluble in water. When rain and snow fall on synthetic fields, these materials can leach from the fields to contaminate ground water and soil. Remediation of contaminated soil and groundwater can be extremely expensive.

6. Disposal. A further problematic issue is what to do with the toxic components of synthetic turf fields 10 or 20 years from now when the fields reach the end of their usable life-span and need to be dismantled. Will the crumb rubber need to be treated as hazardous waste, since it contains toxins and carcinogens? Will it need to be placed in a hazardous waste landfill? What will disposal cost? Who

will pay? None of those questions have been properly considered. The manufacturers of the turf fields will be long gone when the bill for disposal comes due.

I recommend that for all these reasons you carefully weigh the risks and benefits of artificial turf prior to any installation in Arlington. Due diligence is critical. One-sided arguments put forward by turf field manufacturers and their paid consultants require careful examination and cannot be taken at face value.

Sincerely,



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